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ABSTRACT

Since the post-adolescent period is one of changes in values held, it is essential that colleges more effectively confront the task of stimulating and challenging ethical growth. Simulations are a technique which may prove effective in this task. Prisoner's Dilemma, Ghetto, and Diplomacy are three examples of simulation games which may generate educational experiences in the affective domain. (Author/STS)

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VALUE CHANGE IN COLLEGE AND THE IMPACTS OF SIMULATIONS ON VALUE SYSTEMS OF STUDENTS

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It is immediately obvious to even the cursory reader of educational literature that much recent pedagogical writing both popular and professional has focused directly on the need to introduce discussions of value theory into the classroom... Both educational theorists and nonprofessional commentators have decried the pronounced lack of value discussions and moral considerations in the classroom. They perceive this deficiency as an all too common and pervasive occurrence in our educational mechanisms.

Anthony J. Lisska, "Simulation, Values Clarification and Normative Ethics," Unpublished, 1976, p. 1.

I. Introduction

Liberal arts colleges should be differentiated in their mission and goals from the large university. If they attempt only to fulfill the functions which larger educational institutions can accomplish more economically, and perhaps better because of greater resources, it is inevitable that liberal arts colleges will suffer in the competition to attract students.

A frequent assertion for distinctive education in the small liberal arts college is that students' lives are enriched through growth in their value systems and development of their capacity to live and function as ethical beings. Most teachers in these colleges accept as an article of faith that the liberal arts experience has a "liberalizing" effect on the ethics and value systems of students.

Yet, for most, it remains simply that, an article of faith. Very few teachers in these colleges are aware of the literature on the effects of the college experience on students and whether these findings are supportive of the contention that significant change in values and valuing systems occur as a result of the college experience.

II. Personal Values and Developmental Stages

Individuals move through stages of intellectual and ethical development in late adolescence which can be described in an orderly way.[1] Furthermore, there is evidence that the period between adolescence and adulthood is a critical period in the ethical development of the individual. Change occurs in values and valuing systems during this life-cycle phase and those values wnich are held at the end of this period or developmental stage tend to persist throughout adulthood.

> ...young alumnae, though less disturbed or upset than they were as seniors, still had largely the same values and attitudes; that in the years since graduation, they had become more stable, but not really developed much further. Their growth curves had leveled off. Studies of Vassar alumnae of various generations going back to 1904, strongly suggest that values and attitudes change during college much more easily than later, and that for many students college thus offers a kind of last chance for serious development.[2]

III. The Impact of College on Student Values

The evidence on the effects of the college experience is somewhat mixed, although more recent data appear to support the point of view that at least some significant change does occur during the college years.

At the one extreme are the findings of Philip E. Jacob in Changing Values in College.[3] Jacob argues that the primary effect of college on students is not a liberalization of values but the socialization of the individual, a refining, polishing and "shaping up" of his or her values so that the student can fit comfortably into the ranks of American college alumni. In short, the effect is "to bring about general acceptance of a body of standards and attitudes

characteristic of college-bred men and women in the American community....There is more homogeneity and greater consistency of values among students at the end of their four years than when they begin."[4]

> When all is said and done, the value changes which seem to occur in college and set the college alumnus apart from others are not very great, at least for most students at most institutions. They certainly do not support the widely held assumption that a college education has an important, general, almost certain "liberalizing" effect.[5]

> The changes which have been observed--moving students towards a greater uniformity and at the same time somewhat more flexibility of social outlook--are mainly changes on the surface of personality. They do not really involve the fundamental values which shape a student's life pattern. The weight of evidence indicates that actually very little change occurs during college in the essential standards by which students govern their lives. The values with which they arrive and which are integral elements of their personality, are still there when most students leave. They may have modified their opinions on a lot of questions and have learned how to tolerate and to get along more easily with people of differing hues and views. They may have become more self-reliant. They may have changed vocational plans. But most students remain fundamentally the same persons with the same basic value-judgments.[6,7]

The most extensive evaluation of the array of studies on the impact of college on students has concluded that those undertaken in the fifties and early sixties indicate that"students entering college typically emphasize values of a privatistic nature, and are as likely (if not more so) to hold these values when departing from college."[8] These studies, however, reflect rankings or priorities of values, rather than whether the individual values are important.

Arthur W. Chickering in Education and Identity argues that more recent data support the position that significant developmental

changes do occur during the period between adolescence and adulthood.[9] Nevitt Sanford in Where Colleges Fail argues that studies show convincingly that college does indeed have an influence in the changes in various factors of personality which take place in students.[10] Evidence since the early sixties does appear to support the position that change takes place during this developmental period and the college can be an environment which facilitates these transitions.

These studies tend to indicate a movement toward liberalism, and sophistication in social, political, and religious attitudes and declining authoritarianism, dogmatism and prejudice.

However, there are limitations to the conclusions which can be drawn from these studies. Among these are the following:

1) In many studies it is not clear that the changes which occur are results of the college experience. Comparative studies of college and non-college post-adolescents are few. In general, those which have been undertaken indicate that both groups experienced decreases in authoritarianism, dogmatism, and ethnocentrism, but that the changes undergone by college students are greater.[11] One researcher has concluded that "the college experiences had a facilitative effect rather than a unique one upon changes. That is, change in college students in certain areas, compared to changes by persons not going to college, are accelerated due to their experiences at college."[12]

2) By and large, the studies indicate only that change occurs in areas of liberalism, authoritarianism, dogmatism, prejudice and ethnocentrism. They provide information on the value structure, priorities, and their changes of college students. They do not pro-

vide very great insight into the valuing processes of students and whether changes occur in these processes moving the individual toward integrity and congruence of values.

Chickering postulates that movement toward integrity--increased congruity between behavior and values--involves three sequential and overlapping states; humanizing values, personalizing values and developing congruence.[13] Competence in this process of developing integrity is the ultimate test of the impact of college on students, and it is knowledge of this impact which is lacking.

IV. Summation: The Values Impact of College

The existing studies indicate that the post-adolescence period is one of changes in values held. These changes are somewhat more extensive in students in college than in others in this age cohort who do not attend college. The data are deficient in providing information on whether the impact of college leads toward greater congruence between values and behavior, the measure of integrity.

Given that change does occur during this developmental stage, and that these changes tend to persist with little overall change occurring later in adulthood stages, the post-adolescent period is critical in the ethical development of the individual. It is essential that colleges more effectively confront the task of stimulating and challenging ethical growth.

Simulations are a technique of teaching and learning that may prove effective in this task. Their usefulness as devices to generate learning in the affective domain should be carefully evaluated.

V. The Impact of Simulations on the Values and Value Systems of Students

Most types of learning experiences surely impact in some incremental manner on the learner's affective domain, the realm of values, attitudes and emotions. Yet few teachers in higher education give any consideration to how the learning experiences they design affect students outside of the cognitive outcomes.

Even more infrequently is concern expressed about the impact in the affective domain of alternative pedagogical techniques or the ethical legitimacy of these methods. With the possible exception of the mild furor over authoritorian teaching, the lecture format and passive learning by students, there is not a great deal of sustained and substantial concern about teaching "methodologies" beyond their effectiveness in achieving cognitive outcomes. It would be uncommon to hear discussions of the effects of lecture, Socratic dialogue, group discussions, and independent and self-paced learning on students' values. Where teachers are concerned about values, value questions, and students' growth as a "valuing being," "context" rather than "pedagogy" is considered as the primary vehicle.

One of the major claims of advocates of teaching through simulation is that this pedagogical approach does have significant impact in the affective domain. It places students in contrived situations in which they cannot remain passive, and which forces "behavioral," and "moral" choices which influence and/or reflect the students' ethical frame of reference and process of valuing.

The Context of the Issue at Denison. It is instructive to examine the context in which the issue of the "ethics" of teaching

through simulations was first raised at Denison.[12] A widely respected professor of English at the college has expressed both in words and in writing a deep humanistic concern and sense of moral outrage about the obedience experiments conducted by Stanley Milgram at Yale University.

In an unpublished article, this professor, William Nichols, wrote:[13]

> In the 1960's Abse[14] read a paper by Milgram which reported on his now rather well-known obedience experiments at Yale University. Abse then wrote a play, The Dogs of Pavlov, which posed a number of critical questions about such research, although it did not actually re-enact Milgram's Yale experiments. Asked to write an introductory essay when his play was published in 1973, Abse provided some background about the genesis of The Dogs of Pavlov and some very direct criticism of Milgram's basic experiment. "In my view," he said, among other things, "...it is dubious whether his simple but brilliant and terrible experiment should have been carried out." Abse offered Milgram the opportunity to respond, and the published version of the play includes two letters from Milgram, one reacting to Abse's introductory essay, the other commenting briefly on the play itself.
>
> Milgram's work on obedience in the early 1960's included many experimental variations, but a summary of the basic experiment provides adequate background for understanding the Abse-Milgram exchange. It offers, in addition, a concrete example of the context in which the debate occurs in our time. The experiement began when a person answering an advertisement--"WE WILL PAY $4.00 FOR ONE HOUR OF YOUR TIME"--arrived at a laboratory to participate in what was explained as a study in memory and learning. After brief preliminaries, the individual discovered that he would function as teacher in the experiment, as distinguished from the experimenter, who assumed the role of authority, and the learner. The teacher, who was really the subject of the experiment, then assisted the experimenter in strapping the learner's arms to the chair; and the teacher-subject and experimenter moved into another room, where the teacher was given charge of a "shock generator," which included a battery of thirty switches that moved in 15-volt increments from 15 to 450 volts. The teacher was instructed to administer a learning test to the person in the other room, giving the learner a shock each time he answered

> incorrectly and increasing the voltage with each wrong answer. But the teacher was not actually giving shocks at all. The learner was an actor, trained to give incorrect answers, register pain, and ultimately to refuse to participate in a way calculated to make the teacher-subject believe he might be injuring, perhaps even killing,the learner.
>
> The central question in each performance of the experiment was this: When would the teacher-subject rebel against authority and refuse to administer more shocks? With the experimenter giving strong admonitions to continue and assurance of "no permanent tissue damage," sixty-five percent of the teachers never disobeyed. But the obedient teachers were apparently subject to enormous stress. In a 1963 report on the experiment, Milgram said: "In a large number of cases the degree of tension reached extremes that are rarely seen in sociopsychological laboratory studies. Subjects were observed to sweat, tremble, stutter, bite their lips, groan and dig their fingernails into their flesh. These were characteristic rather than exceptional responses to the experiment."

Professor Nichols subsequently, has expressed concern about the Milgram experiment as a simulation, and, hence, the ethics of simulations in the classroom.

It appears that the critical link between the ethics of the obedience experiments and the simulations is whether the experiments were, indeed, a simulation. The confusion arises in part because of the lack of precision in the use of the term "simulation." Because the electrical shocks were not actually being administered, the responses of the persons supposedly experiencing the pain were "simulated." This is a very general usage of the term.

The Milgram experiments, however, fail to meet the test of the basic criterion of a simulation. For a project or an experience to be categorized as a simulation <u>per se</u>, all participants must know that the "research" or "experience" is "not for real"; that there are no actual costs or risks, human, physical or structural.

Therefore, participants can experiment with alternative behaviors or options with complete assurance that any and all outcomes are simulated and not real. Simulated trainers for airline pilots and driver trainees, mechanical and electronic manikins for medical and dental students, simulated urban systems for city planners and education systems for potential teachers where the process is zero cost in terms of real outcomes are "simulations." An experiment such as Milgram's in which participants were unaware that the shocks were not actually administered and the expressions of pain "simulated" are not "simulations."

However, to dismiss the concern about the ethics of teaching through simulations which was expressed in the context of the obedience experiments by pointing out that the experiments were not simulations does not do justice to the sophistication of Professor Nichols' argument. The essence of his concern, as I understand it, is that even in simulated situations in which the participants fully realize, and perhaps because of this realization, that there are no actual costs or consequences, students may make decisions or behave in ways which contravene their basic values and beliefs. When, in retrospect, they realize what they have done and what they may be capable of doing in real situations, this realization may cause cynicism, self-doubt, and perhaps psychological harm. This is also the crux of Abse's concern about the Milgram experiment. The situational context promotes and encourages behavior or actions which may cause psychological harm to the actor. In the experiment people learn, in Abse's words, that they have "a frightening capacity to hurt each other in brutal deference to authority."

VI. The Effect of Simulations on Value Systems of Students

The question of the possible impact of simulations on the affective domain of students, their morals, value systems, attitudes and emotions is important and deserves close scrutiny. Whether simulation impacts more directly or in greater degree must be answered through careful evaluation of learning outcomes.

The question of whether it is educationally desirable or undesirable for students to be placed in simulated situations which possess the potential for these impacts can be addressed more directly. This task is difficult at the abstract or conceptual level. It is more effectively undertaken in the context of three relatively simple and commonly used simulations. These are described not to provide instructions for use, but to illustrate the underlying dynamics which influence behavior and choices.

1. Prisoner's Dilemma. Participants are divided into two groups. The terms "game" and "team" are not used to avoid placing the exercise in a competitive context in the students' minds. The instructions are simple. In each round, both groups pass to the other a slip of paper on which is written either "red" or "black." If both groups pass "black," each receives an equal number of points (+3). If both pass "red," each loses an equal number of points (-3). However, if one group passes "red" and the other passes "black," that group passing "red" receives a number of points (+5) which is greater than that obtained in a black-black combination (+3). The group passing "black" loses a number of points (-5) greater than that lost in the red-red combination (-3).

The dynamics are obvious. By cooperating, the sum of the points of both groups combined will be the greatest. If, however, one group can pass "red" with the expectation of receiving "black," the potential exists for that group to maximize its total of points even though the combined total of both groups is lower (a"beggar thy neighbor" process or policy).[a] Cooperative behavior will work to the benefit of the total population, while competitive decisions benefit only one group but results in lower and often negative net total points for the groups combined.

How should this simulation be evaluated in terms of the potential effect on a student's value system? Almost inevitably, one group begins to act competitively, violating trust and seeking a win-lose solution. Might then participation in this simulation be detrimental or pejorative to a student's growth as a valuing being?

a) Clearly the point allocation system creates an initiative to engage in competitive win-lose behavior, especially for those who do not think through the allocation system and possible outcomes of these actions. The pattern which most frequently emerges is for one group to act competitively with the other attempting to develop thrust through cooperative behavior. Failure to elicit reciprocal cooperative decisions usually results in a change to red-red or lose-lose

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[a] The question at issue is not whether prisoner's dilemma is effective relative to other approaches but whether it is useful for illustrating particular points or concepts. I personally feel it is and have used it as a technique of raising such issues as acculturated competitiveness, mutuality and cooperation, trust and trust building, as well as the dynamics of groups. Obviously, the simulation raises a number of questions germane to economic systems.

exchanges. After a few rounds of both groups losing points, groups usually realize the futility of this pattern and tentatively move toward a win-win or black-black pattern.[b] In other words, the process dynamics have focused the adverse consequences of competitive behavior that results in retaliation and lose-lose outcomes and caused each group to move to a cooperative model.[c]

b) Yet the simulation has created at least the permissive circumstances for some students to engage in competitively cut-throat behavior. Is this behavior immoral or harmful to the student? In part, the answer to this question depends upon the philosophy and ethical system of the individual making the judgment. Undoubtedly, there are those who would sanction competitive behavior even when it is uncritical and detrimental in the aggregate. Others, with differing value systems and perceptions, are condemnatory of many or most aspects of competitive behavior. Hence, this question, for present purposes, is not explored very fruitfully at this level.

It is pertinent whether the behavior observed is simply a result of the "gaming" situation or really reflects acculturated behavior patterns of the student. In Western cultures, particularly the

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[b] With the exception of the last round when students tend to engage in end-game strategies, this is easily handled by not announcing that it is the last round and terminating the simulation unexpectedly.

[c] In most cases, movement to a win-win strategy results because of recognition of self-interest rather than idealism or humanitarianism. This is a merit of the simulation for those who wish an approximation or reality in the learning experience. For those who wish to focus on moral behavior and idealism in the learning experience, the simulation provides an excellent focuser and value question can be extensively examined in the debriefing period.

United States, children, especially males, are inculcated with strong competitive drives. It is unlikely that competitiveness would surface in a simulation if this characteristic was contrary to existing cultural mores.

However, even if only gaming behavior, the simulation provides the student with an opportunity to experiment with behavior patterns and provides immediate feedback on consequences. In Prisoner's Dilemma, the point system focuses on the shortcomings of "beggar thy neighbor" policies, and the realization and understanding of these consequences can be analyzed in the simulation discussion and debriefing. Careful debriefing is an essential component of teaching and learning through simulation.

The use of a simulation such as Prisoner's Dilemma permits the instructor to observe the behavior of the student. One of the risks that the student realizes is absent from a simulation exercise is that he or she will be evaluated on the basis of the of their interaction and decisions. One of the major "games" played by students in the traditional classroom is providing instructors with only the feedback they perceive he or she wishes to hear. Where this occurs, the instructor loses the opportunity to analyze and discuss with students their actual attitudes and proclivities. Because simulation provides the opportunity for immediate behavior and feedback which the instructor can observe, a significant educational opportunity is created. In other classroom formats, such as group discussion, the instructor may not be able to identify a particular attitude or proclivity and examine it with the student because of students' filtering their feedback.

It should be evident that the comparison between Milgram's obedience experiments and a simulation such as Prisoner's Dilemma is not particularly germane. Student participants realize the costs in the simulation are not for real. It is unlikely that students will be psychologically affected by the realization that they have contravened their value systems because of the "gaming" aspect of the simulation. Conversely, there appears to be a rich potential for generating circumstances in which value questions can be discussed in a context meaningful and relevant to the students' behavior.

2. Ghetto. The simulation is somewhat more involved, although not complex. It attempts to simulate a ghetto environment and the overwhelming difficulties involved in improving the individual's socioeconomic circumstances and earning power and wider community quality and welfare.[d] The structure of Ghetto are difficult to describe in a cursory manner. Each participant is assigned a profile of a ghetto residence giving sex, age, number of children, education, and earning power. Earnings are determined by education level achieved and time available for work or education. For example, a female with children has fewer hours to work or go to school unless she has the resources to pay for child care.

In each round participants allocate their resources (time or hours of the day) among school, work, community development, or "hustling." "Hustling" is any criminal activity. It has a relatively

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[d] In many ways this is one of the most effective simulations I have used in the classroom.

high payoff, but also a risk of getting caught and penalized. Residents can increase the probability of hustlers getting caught by investing in community welfare. However, these investments entail the necessity of sufficient resources being mobilized from residents. To contribute these resources to cooperative community development efforts, participants must reduce their individual effort at personal advancement.

For every individual who hustles in a round, there must be a victim. Victims are identified on a random draw basis. The consequences of being victimized range from a loss of resources to loss of jobs and education advancement because of injuries.

Finally, there are a series of random events which affect outcomes. Women in each round may have additional children. This is determined on a probability basis and the role of a die. Other random events are either adverse or beneficial.

It is extremely difficult to succeed in this simulation or even to make significant progress because of the low payoffs to education and work, the improbability of achieving sufficient cooperation for the necessary community development, and the frequent set-backs which are encountered. In short, it is a good simulation of some aspects of the ghetto environment.

The dynamics of Ghetto follow a predictable pattern. Participants quickly become frustrated. The options are limited, the obstacles formidable, the set-backs frequent. They become angry at a system which forces them into hustling simply to survive, although some go into crime because of the higher returns.

The level of emotion generated is often quite high. A high

degree of empathy for ghetto dwellers and an understanding of their circumstances develops, which is extremely difficult to replicate through other types of educational experiences. The simulation is effectively debriefed both at the level of feelings and attitudes and the alternatives available to intercity residents.

The empathy, the effect on attitudes and the emotions generated by Ghetto are highly positive educational attributes. But are there negative features? One, and perhaps the most serious, is the level and quality of humor which can develop if not carefully monitored, although this, in part, is a means of relief from the tension which is created. Also the dynamics and structure of the simulation force participants into "hustling" an activity which, hopefully, is antithetical to the value systems and moral precepts of those involved in the experience. It is unlikely that this has a negative impact on their development as moral, valuing beings. On the other hand, the empathy and understanding which results would seem to contribute to their growth in personal and social values.

3. Diplomacy. This is a simulation of the historical preconditions of World War I and the dynamics which determined the course of the war. It examines the military power and geographical features of the countries of Europe which generated coalitions, determined strategy and influenced the nature of diplomacy prior to and during World War I. It is particularly useful in focusing the effects of geographical access, natural barriers, and contiguity and propinquity of countries.

The simulation does not replicate necessarily the actual conditions and dynamics of World War I. Rather, it illustrates the

forces which were at work, the exercise of international power politics, and the national need for establishing geographical buffers to protect a country's boundaries.

The decisions which are made and the behavior generated in the course of Diplomacy, are nationalistic, emphasizing of vested interests, imperialistic and aggressive. Once war has broken out, the primary emphasis is upon becoming the victor.

The behavior induced is self-serving and productive of the tensions and mistrust that creates and sustains war as a solution to international conflicts of interest. The question then becomes pertinent whether participants are affected adversely in their growth as moral "beings."

The benefits to the participants is a level of understanding of and sense and feel for the dynamics and preconditions of World War I which would be difficult to achieve in other contexts. The simulation has reflected actual historical processes if not actual circumstances. In a sense they have relived, in some degree, the historical context. It would seem difficult for an educator to then argue that participation in the simulation has an adverse impact on the student. The realization of the consequences of these actions and the instability of world order should contribute to the education of a "moral" person who can function realistically and idealistically to an imperfect world and an imperfect society.

VII. Perspective and Conclusions

A frequent assertion for distinctive education in the small college of liberal arts is that students' lives are enriched through

growth in their value systems and development of their capacity to live and function as ethical beings. Studies of the effects of a liberal arts education on students' values do not provide particularly strong substantiation of this claim.

Few faculty seem aware that this claim to distinction is not validated in fact. Most appear reluctant to explore ways in which learning and development in the affective domain can be stimulated and encouraged.

One strong hope for simulation as a teaching technique is that it can impact meaningfully in the realms of value, attitudes and emotions. Refined and careful evaluation of simulations is needed to determine the degree of "affective" learning which can result from their use in the classroom. However, that the potential exists and the actual learning outcomes have not been validated through careful evaluation, the question of attendant "risks" or detrimental consequences to the student, appropriately, is raised.

Not all simulations are good. Many suffer from flawed design and faulty dynamics. Others are simply frivolous, addressing inconsequential subjects, and oriented more to the fun and excitement of play rather than meaningful learning outcomes. Some are "bad" in the sense that what they teach is incorrect and not in correspondence with reality, or is unethical and detrimental to students' development as persons capable of "liberated" ethical reasoning. This is not unique to simulation. The same is true of all forms of educational materials and classrooms. Judgment must be used in the selection of all teaching materials.

Given the use of judgment in the selection of simulations, a

tentative conclusion can be registered that "good" simulations will not affect negatively the student's ethical development; rather, simulation may represent a potential pedagogical approach for focusing some part of the student's education on value questions in a manner which may generate, at least, incremental change in their value systems, a "liberalizing" experience in the affective domain. This judgment is a personal one; based primarily on my own experience in using teaching simulations. I have attempted, in an imperfect manner, to identify the basis for this conclusion by examining the structure and dynamics of the three simulations, Prisoner's Dilemma, Ghetto, and Diplomacy.

This conclusion, however, is not unqualified. There appears to be some basis for concern about the impact of even "good" simulations on students. The observation of behavior and decisions in simulations may result in a degree of cynicism and a tempering of idealism about human motivation and goals. To the degree that this serves to generate realism and increase the student's effectiveness in working to improve the world in which we live, this is desirable. But to the degree that this tempering of idealism diminishes motivation to work for the goals he or she believes desirable, it is unfortunate. The risk of working with students to achieve greater realism and perspective is that of encouraging a cynical pragmatism. Experience beyond college often has this effect as well. Perhaps it is better that students confront this in a controlled environment in which the influence of the teacher can be helpful in achieving a sense of balance and perspective. This again points to the importance of careful debriefing as a component of simulations.

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